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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/085,682

02/26/2002

David L. Blankenbeckler

M-12013 US

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09/29/2006

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EXAMINER

PSITOS, ARISTOTELIS M

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 09/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/085,682

Applicant(s)

BLANKENBECKLER ET AL.

Examiner

Aristotelis M. Psitos

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7, 11, 12, 14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 7, 11, 12, 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/5/06 has been entered.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obata et al further considered with Ohkawa et al both further considered with Zaharris et al . The following analysis is made:

Claim limitation(s)	Reference(s)
1: A first surface optical storage disc, comprising:  a circular substrate having a first principal surface and an opposing second principal surface;  a spiral track of bumps formed on a first portion of the first principal surface, wherein the bumps represent pre-recorded information, the bumps being separated by planar regions;	Obata et al  see abstract/figure 1  element 100, first principal surface is the "top" surface, and the second principal surface is the bottom   see embossed area 114a so represents see below analysis

lands formed on a second portion of the first principal surface,	see 114b description at
the lands being separated by grooves; and	at col. 6 lines 31-38
a phase-change material deposited on the first portion and the	see col. 6 lines
second portion of the first principal surface : and	61 plus
a dielectric laver sputtered over the phase-change material:	protection film 3
the first surface disk having no additional layers overlaying the	not designated see
dielectric layer, wherein	
a combined thickness of the phase change material and	
the dielectric laver is such that the dielectric layer	
defines coated bumps and planar regions in the first	
portion and coated lands and groove, in the second	
portion, and wherein a data density of the first portion is	
less than a data density of the second portion.	

As noted in the above analysis, the Obata et al reference although providing for a protection layer, does not depicts such as a dielectric.

Applicants acknowledge the newly inserted spiral track of bumps as being part of the prior art and hence no further discussion is made thereto. Alternatively, such formatting is also taught by the Zaharris et al reference – see the discussion for instance at col. 5 lines 40-61 for instance.

Ohkawa et al discloses the ability of having a dielectric as a protective layer.

It would have been obvious to modify the base system of Obata et al with the above teaching from Ohkawa et al, motivation is to use existing materials known in this environment for their inherent uses and hence save valuable resources such as time, etc. in creating new protective materials.

Furthermore, with respect to the spiral track format – as further evidenced by Zaharris et al such is standard practice in this environment.

With respect to the newly inserted structural limitations as interpreted:

Art Unit: 2627

Such is inherently present in the above combination of references, i.e., the "bumps" are so defined.

#### Response to Arguments

Applicant's arguments filed 9/5/06 have been fully considered but they are moot in view of the newly stated rejections.

Applicants' claims do not distinguish/define over the above combined references, that is the claims do not require – only the structural elements recited.

The examiner interprets the "bumps" as being so defined. Applicants' arguments concerning the "first surface" requiring no de-focusing (uncoated) disc are not convincing. As claimed, such a "coating" can be present, i.e., -- "comprising" language in the claim.

Furthermore, if applicants can convince the examiner that no additional surface is indeed required, then under 103 considerations, the examiner would maintain the rejection, since as is well known, the provision of an additional "top" coating is an additional feature/expense and elimination of such would be an obvious capability – in order to minimize cost, production requirements, etc.

With respect to the argued "spiral" limitation, the examiner still believes that applicants have indeed acknowledged the existence of such a format. This is further supported by the Zaharris et al reference.

2. Claims 1 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pan et al ('170) further considered with Uno et al all further considered with Zaharris et al and Tanaka.

Pan et al teaches a phase change optical recording medium, having a recording layer 42, and a protective layer 41. There is no clear depiction of I/g, spiral, rom area, etc.

Zaharris et al teaches not only the spiral but also I/g formatting. The recording of info. is in the spiral groove, however as additionally taught by Tanaka, I/g recording is known – to increase recording density.

It would have been obvious to modify the base system of Pan et al with the additional teaching from Uno et al, use of an appropriate protective layer/dielectric – SiON for instance, with the formatting for

Art Unit: 2627

Zaharris et al and Tanaka, motivation is to increase the flexibility of the Pan et al record medium so as to be useable in latter day optical playback devices.

3. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 as relied upon in either paragraph 2 above, and further in view of Pan et al ('170).

The above base reference fails to clarify the material limitation of claim 7. Such material(s) are further taught by the Pan et al reference for use in this environment.

It would have been obvious to modify the base system as relied upon in either paragraphs 1 or 2 above with the additional teaching from Pan et al, motivation is to use equivalent alternatives and hence such a selection would be an obvious manufacturing capability for such reasons as availability, cost, reliability, etc. No unexpected results are seen to occur from selecting such alternative materials.

#### ***Response to Arguments***

See above new grounds of rejection for the base claim.

4. Claims 10 & 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 above in paragraphs 1 and 2 and further in view of Igarashi

The limitations with respect to the size of the disc is considered obvious in view of Igarashi, which discloses discs less than 80 mm as standard. Selection of appropriate sized disc is merely an optimization of size and obvious to one of ordinary skill in the art.

It would have been obvious to modify the base system as relied upon in either paragraphs 1 or 2 and further modify them with the above additional teaching from Igarashi, motivation is to provide alternative sized discs so as to be used in a plurality of disc reproducing mechanisms.

#### ***Response to Arguments***

The rejection is maintained – no further rebuttal is necessary.

Art Unit: 2627

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 above as stated in paragraphs 1 and 2 above, and further in view of Nakamura et al.

With respect to the limitations of claim 12, because the Nakamura et al document discloses various thickness for the overall disc record, the specific limitation is considered merely an optimization of such, and hence obvious over the combination of references in order to optimize the record medium and save on manufacturing expenses with respect to the profile of the final disc product.

***Response to Arguments***

The rejection is maintained – no further rebuttal is necessary.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mizuki et al and Watanabe et al are cited as illustrative of alternative protective layer materials.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristotelis M. Psitos whose telephone number is (571) 272-7594. The examiner can normally be reached on M-F: 6:00 - 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne D. Bost can be reached on (571) 272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Aristotelis M Psitos  
Primary Examiner

